

**Abstract**

Techniques are disclosed for generating a representation of an access control list, the representation being utilizable in a network processor or other type of processor to perform packet filtering or other type of access control list based function. A plurality of rules of the access control list are determined, each of at least a subset of the rules having a plurality of fields and a corresponding action, and the rules are processed to generate a multi-level tree representation of the access control list, in which each of one or more of the levels of the tree representation is associated with a corresponding one of the fields. At least one level of the tree representation other than a root level of the tree representation comprises a plurality of nodes, with at least two of the nodes at that level each having a separate matching table associated therewith.